Hanse-Wissenschaftskolleg
Institute for Advanced Study

Program

International Conference

Harbours of Byzantium

Delmenhorst, January 11-13, 2018

Organizer
Dr. Alkiviadis Ginalis
Österreichische Akademie der Wissenschaften

Venue:

Hanse-Wissenschaftskolleg
Institute for Advanced Study
Lehmkuhlenbusch 4
27753 Delmenhorst
Germany
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Thursday, January 11

13:00 *Registration*

13:30 *Welcome and Greetings by the HWK and the Organizer*

14:00 David Blackman: A Muslim contribution to the development of naval arsenals?

14:30 Robert Hohlfelder: Was Roman Marine Concrete Used in Byzantine Harbor Construction? An Unanswered Question

15:00 Andrea Augenti: At the Origins of Late Antique Economy. 15 Years of Archaeological Research at Classe (Ravenna, Italy)

15:30 Paul Arthur: Harbours and landings of Byzantine Terra d'Otranto

16:00 Coffee break

17:00 **Evening lecture:** Bjorn Loven: Lechaion Harbour in the Late Roman/Early Byzantine Period

18:30 Dinner (until 20:00)

Friday, January 12

10:00 Angeliki Simosi: Byzantine Harbors in the Greek region

10:30 Alkiviadis Ginalis: Was byzantine harbour architecture standardized? Notes from selected harbour sites in Central Greece

11:00 Coffee break

11:30 Marina Livadioti: Thessaloniki's port facilities up to the Byzantine era

12:00 Flora Karagianni: Remarks on the urban transformations of the harbors of the North Aegean coastline during the early Christian era as well as on their links with the road network

12:30 Şengül Aydingün: A new ancient port city from Byzantion (Bathonea)

13:00 Haldun Aydingün: The proposal of a model for Küçükçekmece's natural harbors as a transshipment port during the middle ages

13:30 Lunch

15:00 Alexander Minchev: The main late antique ports on the Bulgarian Black Sea coast

15:30 Irina Sodoleanu: Byzantine harbors on the western coast of the Black Sea (4th – 6th cent. AD)

16:00 Coffee break

17:00 Hasan Binay: A byzantine harbour unearthed in Yenikapi, Istanbul, in the light of archaeological findings and ancient sources

17:30 Sabine Ladstätter: A harbour for a reliquary – New research on an early christian pilgrimage site in Ephesos

18:00 Okas II: sailing from and to Byzantium, medieval ports from Euxeinos Pontos to Eastern Mediterranean (Documentary)

19:00 Dinner (until 20:30)

Saturday, January 13

10:00 Charalampos G. Chotzakoglou: Sailing to and from the Byzantine harbours of Cyprus. Written sources and archaeological remains as testimonies of diverse integrated networks

10:30 Ruthy Gertwagen: Archaeological vis-à-vis historic data regarding harbour architecture in the Byzantine eastern Mediterranean

11:00 Coffee break

11:30	Gil Gambash: Between Yavne-Yam and Ienysus: The Mediterranean Portals of the South-Eastern Levant
12:00	Valerie Pichot: The harbour installations of Lake Mariout (Alexandria region) in the Late Empire (4th – 7th century AD)
13:00	*Lunch*
14:15	Closing remarks
15:00	Excursion: The German Maritime Museum – Leibniz Institute for German marine history Bremerhaven (Guided Tour 16:30 – 18:00)
19:00	*Dinner (until 20:30)*

Hanse Wissenschaftskolleg

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International Conference **Harbours of Byzantium**

January 11-13, 2018

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Paul Arthur

"Harbours and landings of Byzantine Terra d'Otranto"

Following the Lombard invasion of Italy from 568, Byzantium struggled to keep hold of its Western possessions. This required the maintenance of a series of safe-havens for shipping between East and West, so as to regain the upper Adriatic (particularly Ravenna), the grain lands of Sicily, the Tyrrhenian coast and the symbolic capital of Rome. Any sailing up the Adriatic or to Sicily and the Tyrrhenian would have required passage across the Straits of Otranto. The port of Otranto would thus have been a natural stopover, as is to be seen by the abundant discoveries made there. Sailing further afield would have required a series of safe-havens. This paper explores the potential ports, harbours and their relationships, where Byzantine vessels could surely have docked

At the Origins of Late Antique Economy
15 Years of Archaeological Research at Classe (Ravenna, Italy)

Andrea Augenti
University of Bologna

In the last 15 years the University of Bologna has been conducting archaeological investigations in the city of Classe. Several excavations have brought to light the remains of the harbour, the main infrastructure of the city, built at the beginning of the 5th century. Here, many warehouses of different shapes were aligned along a canal that connected Ravenna with the seashore. It has been possible to detect the transformations of these buildings during late antiquity, and their gradual destruction and final abandonment, in the 9th century.

But Classe was not only a harbour: it had been conceived as a proper city, with dense population and a monumental landscape. Archaeological research has revealed some important features of this newly-founded urban centre, in particular two huge Christian basilicas built respectively in the 5th and the 6th century. And when Classe was almost totally abandoned, and it was no more perceived as a living city, the monastery of San Severo - entirely discovered from 2008 - assumed the inheritance of the ancient site.

Therefore, the archaeological project set up in Classe has allowed us to witness the apex and the decline of the late antique economy, and to detect the main aspects of late antique port planning; but also, more generally speaking, it has shed light on the transformations of urbanism between late antiquity and the early middle ages.

A NEW ANCIENT PORT CITY FROM BYZANTION (BATHONEA)

Bathonea excavations started at Avcilar coast in Kucukcekmece Lake Basin attracted attention from 2009 with the presence of two harbors and an ancient lighthouse . In the settlement large and small scales of remains of ports of the Hellenistic-Roman Period, antique roads, squares, agora, a gigantic cistern and great monumental constructions with abscissas are observed especially the cistern that seems to be constructed by the order of the emperor, with its dimensions and capacity for tons of water, was able to provide water for the inhabitants.

The Roman Emperor Constantine moved his capital to Byzantium (Modern İstanbul) in IV century. Where Asia met Europe, so as to administer better the empire that was stretched at the whole Mediterranean geography. Constantine started a remarkable construction action in the new capital of Rome. The Late Antique Period sources state that the most outer city walls of Constantinople started from Küçükçekmece. The excavations are executed at the Küçükçekmece Lake Basin confirm the statements with archaeological data.

Associate Prof. Dr. Şengül AYDINGÜN

Kocaeli University

Department of Archaeology

A BYZANTINE HARBOUR UNEARTHED IN YENIKAPI, ISTANBUL, IN THE LIGHT OF ARCHAEOLOGICAL FINDINGS AND ANCIENT SOURCES

During the excavations made within Yenikapı Metro, Marmaray and Trafo construction projects, significant archaeological findings were unearthed. Thereupon, an archaeological excavation started in an area of 60.000 m2 under the supervision of Istanbul Archaeological Museums. The archaeological excavations in this area have then turned into the most comprehensive rescue excavation project which consists of the most important information on urban history in Istanbul.

As a result of ten years' excavations, the earliest known prehistoric settlement of Istanbul (Neolithic Period 6500 BC) was found in Yenikapı. Besides, a large number of findings, including Archaic, Classical, Hellenistic and Roman period ceramic items and thirty-seven Byzantine shipwrecks were unearthed. Moreover, with the findings of harbour architecture, it has been proved that this area was used as a harbour during the Byzantine Period. And from ancient sources and archaeological remains it is understood that this port was the largest trading port of Constantinople in the late antiquity.

Architectural remains, such as wooden and stone piers, quays, breakwaters and harbour bridges, which are found in the area, were dated to the Byzantine period. However, the architectural remains of the earlier periods has not been found yet .The data about harbour architecture and construction techniques can be seen as applied counterparts of information from some writers of the ancient ages, such as the Roman architect Vitrivius, who lived in 1 B.C. With this aspect, the harbour architecture in Yenikapı is an outstanding example of how Roman architecture maintained its existance in later periods.

Although there are some problems with dating, as the trade amphoras that were unearthed during the excavations indicate, this region was used by the Byzantines for commercial purposes starting from the 4th century AD. The quantity of the Byzantine Period remains is much higher between the 4th and 7th centuries AD. However, the number of archaeological findings which belong to the era after the 7th century gradually decrease and they come to an end in the 12th century.

This presentation includes the examination of the remains of the harbour that emerged with archaeological excavations in Yenikapı referring to the historical sources. In the ancient capital of Byzantium, the remains and historical documents discovered during archeological excavations extend each other's meanings and become an important source of data for historical archaeological investigations.

Hasan Binay did his bachelor's degree İstanbul University Archaeology Department and completed his master's degree in Istanbul Technical University, Art History department.
He has taken part in many excavations by museums and universities, primarily the excavation of the shipwrecks of the Byzantian Period which was a part of the archeological rescue excavations within the metro-Marmaray projects.

Currently, he conducts the documentation studies as a freelance archaeologist in over twenty excavations operated by Istanbul Archaeological Museums. Among his research studies are, Istanbul Urban Archaeology, Byzantine harbours and architecture, Byzantine ceramics.
He is a doctoral candidate in Istanbul University, Department of Art History, Major of The Byzantine.

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Bremen Conference, January 2018
David Blackman Abstract

"A Muslim contribution to the development of naval arsenals?"

Recent discoveries may help us to fill one gap in our knowledge of the tradition of harbour engineering between Late Antiquity and the Renaissance. Indications of the existence of a dockyard in Muslim Seville, before the Christian conquest of AD 1248, suggest a new line of enquiry. Previous research had indicated direct influence from e.g. Constantinople, which cannot be excluded. But the evidence for an Arab/Muslim contribution needs to be considered. Muslim chroniclers refer frequently to 'arsenals' along the coast of the Eastern Mediterranean, and along the African coast to Al-Andalus, as the Muslim conquerors proceeded westwards. This paper discusses the documentary evidence for Muslim arsenals between the 7th and 13th centuries, as a context for the newly proposed archaeological evidence; and calls for new study of other harbours of the period for possible supporting evidence.

Charalampos G. CHOTZAKOGLOU

Sailing to and from the Byzantine harbours of Cyprus.

Written sources and archaeological remains as testimonies of diverse integrated networks

The references to written sources regarding the maritime activity of Cyprus and its crucial role on the Byzantine sea routes of Constantinople, Rome, Egypt, Asia Minor and the Holy Land highlight its importance, which can interpret its economic prosperity. The archaeological remains offer tangible testimonies of the transition of the Roman period to the early Christian era carving a borderline between the two worlds.

The harbours, however, cannot be understood only as the destination of ships, but also as centers of economic, military, religious and cultural activity. Connected to the harbors was a large inland road network, which provided supplies to ships and the distribution of agriculture products and artworks to markets outside the island. The location of shipwrecks and the study of their cargo contribute to our knowledge for the geographical spectrum and range of activities of these ports. At the same time, the harbours connected a network of pilgrimage stations, which in turn was connected with the new trends of the Byzantine capital in art and architecture. This enables us to interpret the spreading of the Byzantine uniform artistic trends, architectural evolution and philosophical ideas.

In our paper we will present a synthesis of the above mentioned information as revealed by the written sources and the archaeological material in order to highlight the multifaceted importance of harbour activity in Cyprus for the cohesion, power and influence of the Byzantine Empire.

Harbors of Byzantium: The Archaeology of Coastal Infrastructures

Between Yavne-Yam and Ienysus: The Mediterranean Portals of the South-Eastern Levant

Gil Gambash

University of Haifa

The prosperity of the south-eastern coast of the Mediterranean and its hinterland during the Byzantine period is well attested in literary and material sources. Much of the evidence for this prosperity comes from commercial activities that would have relied, more or less heavily, on the maritime medium. The connectedness of the Negev settlements to Mediterranean networks is just one example for such reliance, relevant also to the renown of the Gaza wine throughout the Mediterranean region from the early 5th century onward.

While written sources refer to harbors in Yavne-Yam, Ascalon, and Gaza at the very least, no significant harbor facilities had been discovered in those sites, and this fact alone has deterred scholars from suggesting an actual model for the nature of maritime activity in this micro-region, which would offer sufficient explanation for its enhanced Mediterranean connectivity. This paper will consider the logistical needs necessary for maintaining such a thriving economy, and would ultimately strive to explain how it so transpired that not only the fame of the Gaza wine, but also the so-called Gaza and Ashkelon jars, ended up reaching the shores of North Africa, Asia Minor, Greece, the Black Sea, Italy, southern France, Spain, and even Germany and Britain.

Archaeological vis-à-vis historic data regarding harbour architecture in the Byzantine eastern Mediterranean

Dr. Ruthy Gertwagen, The University of Haifa, Israel

Study of harbours and ports, requires interdisciplinary methodology, primarily of archaeology, history, oceanography, marine engineering, construction engineering and architecture. In documented periods, such as the Byzantine (6th to late 15th century), history is indispensable. Archaeologist, are indeed aware of the importance of the historic field for interpretation of their finds, in this case regarding building and maintenance of artificial ports, their facilities and infrastructures. However historic evidence should be analysed cautiously and not to be automatically taken at face value. The current paper deals with this issue and related topics, i.e.

1.How to interpret archaeological remains vis-à-vis historical data

2. The importance of archaeological data for technological achievements or not

3. the relation between nautical technology and shipwrecks evidence to the function of harbors and ports and their facilities

4. local initiations vis-à-vis governmental. The importance of the geopolitical and economic conditions.

The paper discusses:

Caesarea Maritima, Acre and Tyre along the Levantine coast;

Bozcaada/Tenedos island in the northeastern Aegean, Crete in the southwest and Monemvasia, off the east coast of the Peloponnese; Gallipoli in the Dardanelles; Modon in the southeaster Ionian, the Island of Corfu in the northeast and Venice.

Was Roman Marine Concrete Used in Byzantine Harbor Construction?
An Unanswered Question

Three decades ago I published an article entitled: "Procopius, *De Aedificiis*, 1.11.18-20: Caesarea Maritima and the Building of Harbours in Late Antiquity," in **Mediterranean Cities: Historical Perspective,** eds. I. Malkin and R.L. Hohlfelder (London, 1988) 54-62. There I suggested that some maritime building techniques just revealed by excavators at Caesarea Maritima, (Israel), may have persisted *mutatis mutandis* to be employed in the construction of harbor facilities near Constantinople during the reign of Justinian. At the time of publication, the study of ancient and Byzantine harbors, as a field of interest to maritime historians and archaeologists, was in its infancy, while the underwater excavations at Caesarea were also still in progress with years of field work ahead extending right to the present. Based on harbor research there and elsewhere since 1988, some aspects of my article now need reexamination.

Specifically, I will discuss how the recently completed research project known as the Roman Maritime Concrete Study (ROMACONS 2002-2009), which I co-directed, has added significant new information regarding Roman concrete engineering in the sea. Detailed data regarding the widespread use of Roman marine concrete in harbor installations through the late 2nd C in Italy, Greece, Turkey, Israel and Egypt emerged in the fieldwork for this project and during subsequent laboratory study of the collected concrete cores, first at the research facilities of the Italcementi Group and then at other similar laboratories in the US and Italy.

What is certain is that the Procopius text does confirm that the Roman maritime engineering technology of using wooden caissons in the construction of harbors did continue into the 6th C. It may well be, however, that these caissons were used in different ways. They may have continued to hold Roman marine concrete, but it is also possible that they were used as construction containers to hold either some type of less durable lime mortar-aggregate mix or maybe just rocks.

As regards the use of Roman marine concrete in LA and beyond, none of the harbors visited by ROMACONS investigators that were known to be in use then- Lechaion, Anthedon, Yenikapi, Alexandria, and Caesarea- appear to have employed Roman marine concrete to repair or expand existing maritime installations. This is a very small and selective sample of known LA harbors, so it remains possible that this unique, almost indestructible building material may well have been used elsewhere, including in the Justinian era harbors mentioned by Procopius. Only future research will establish or refute this possibility.

My paper is actually a request for scholars now engaged in studying Byzantine harbors to be aware of construction techniques at play and particularly to ensure that any mortar-aggregate discovered in a purpose built barge or in a derelict ship's hull be carefully analyzed in an appropriate state-of-the-art laboratory. If such investigations do reveal the presence in LA or even later Byzantine harbors of volcanic ash or sand (*pulvis puteolanus*) from the Bay of Naples region in any mortar-aggregate mix, it would prove that one more aspect of Roman harbor technology had endured in the East after the collapse of the West. (I will explain in my talk why **only** *pulvis puteolanus* was used to make the mortar employed in Roman marine concrete) If Roman marine concrete construction was still commonplace after the 2nd C, how the knowledge of its

composition and use had survived to be transmitted through the centuries and how *pulvis puteolanus* was transported as a bulk commodity to Byzantine harbor sites will provide interesting lines of research to pursue.

Professor Emeritus Robert L. Hohlfelder
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13 September 2017

FLORA KARAGIANNI

Remarks on the urban transformations of the harbors of North Aegean coastline during the early Christian era as well as on their links with the road network

In the coastline of Eastern Macedonian and Thrace there have been developed some very important harbors, such as Thessaloniki, Cavala, Avdera, Maroneia etc., which were initially established in Antiquity. These harbors in byzantine times continued using the already existed infrastructure whereas in some cases, buildings or the surrounding walls were renovated. The archaeological excavations have brought to life a series of data which reveal different phases of construction in the architectural remains, supplementary buildings that were erected in the wider area of the harbors as result of the constant needs for new buildings that could facilitate extra services, as well as, in some cases, transformations in the uses of the places around the harbors.

On the other hand, the archaeological evidence as well as the study of inscriptions, indicate that among the main concerns of authorities were to secure the constant communication between the harbors and the road network of the hinterland. In Eastern Macedonia and Thrace, the Via Egnatia, was in use for centuries and during the Late Roman- Early Christian era it was the main street which crossed Macedonia and Thrace. Both historic and archaeological information prove that around the street a series of secondary street network has been developed linking the main Via Egnatia with cities of the hinterland and harbors of the coastline.

The current paper is an initiative to discuss the links between harbors and streets of the hinterland, as well as to follow the urban transformations of the harbors of Eastern Macedonia and Thrace during the early Christian era.

Ein Hafen für eine Reliquie – Neue Forschungen zu einem byzantinischen Pilgerheiligtum nahe Ephesos

Im 6. Jahrhundert n. Chr. stand direkt an der Hafeneinfahrt nach Ephesos auf einem kleinen Felsrücken eine Kirche, deren spezifische Ausstattung auf ein Pilgerheiligtum schließen lässt. Jüngste geoarchäologische Forschungen haben den Nachweis erbracht, dass die Anlage über einen eigenen, kleinen Hafen verfügte, von dem aus Besucher in einem Rundgang zu einer Krypta und weiter in den Kirchenraum geführt wurden. Die Kirche selbst zeichnet sich durch aufwändige Marmorausstattung, Mosaik- und Opus Sectile-Böden aus und lässt auf finanzkräftige Stifter schließen. Geophysikalische Prospektion im unmittelbaren Umfeld der Kirche zeigt eine dichte Bebauung, die wohl mit dem Betrieb der Pilgeranlage in Verbindung zu setzen ist. Das wichtigste Fundstück ist allerdings ein kleines Marmorreliquiar, dessen technische Ausführung unmittelbar mit einem speziellen Reliquienkult in Verbindung zu bringen ist.

Basierend auf dem Befund soll der Frage der Bedeutung der Anlage für das frühchristliche Pilgerwesen in Ephesos nachgegangen sowie ein Überblick über die komplexe Hafenlandschaft der Stadt in byzantinischer Zeit angeschlossen werden.

Οι λιμενικές εγκαταστάσεις της Θεσσαλονίκης μέχρι και την Βυζαντινή εποχή

Η Θεσσαλονίκη κατά την βυζαντινή εποχή αποτελούσε τη δεύτερη μεγαλύτερη και πιο σημαντική πόλη του βυζαντίου μετά την Κωνσταντινούπολη. Η γεωγραφική της θέσητην καθιστούσε σταυροδρόμι (εμπορικό και στρατιωτικό) καθώς βρισκόταν στον κεντρικό οδικό άξονα Ανατολής Δύσης (Εγνατία Οδό) και ταυτόχρονα αποτελούσε τη συντομότερη θαλάσσια έξοδο της Βαλκανικής χερσονήσου προς τη Μεσόγειο. Γι αυτό το λόγο, το λιμάνι της έπαιζε νευραλγικό ρόλο καθ όλη την ιστορία της. Δυστυχώς τα αρχαιολογικά κατάλοιπα που συνδέονται με αυτό είναι λίγα, ενώ οι πηγές δεν καταφέρνουν να αποσαφηνίσουν επαρκώςτην εικόνα του. Στόχος της παρούσας παρουσίασηςείναι η συγκέντρωση όλων των διαθέσιμων στοιχείων (αρχαιολογικών και ιστορικών πηγών) με σκοπό τη σκιαγράφηση μίας, έστω και θολής, εικόνας του τόσο σημαντικού για την πόλη και την αυτοκρατορία χώρου.

Thessaloniki port facilities up to the Byzantine era

Thessaloniki was the second largest and most important city of the Byzantine Empire after Constantinople. It was a commercial and military crossroad, due to its geographical location that was situated on the main road axis between East and West (Egnatia Odos) and, at the same time, it was the shortest sea exit of the Balkan Peninsula to the Mediterranean. For this reason, the port of Thessalonikiplayed a key role throughout the history. Unfortunately, the archaeological findings are few and the references fail to clarify the image of the city’s port facilities. This presentation aims to gather all the available data (archaeological and historical) in order to outline an, even blurry, image of this area, which was so important for the city and the whole empire, as well.

Lechaion Harbour in the Late Roman/Early Byzantine Period

Bjørn Lovén

The sheer wealth that exchanged hands here gave rise to the ancient Greek proverb, "not everyone can afford to go to Corinth." The city-state was positioned on the isthmus between the Greek mainland and the Peloponnese peninsula and controlled shipping and trade between the eastern and western Mediterranean. In fact, early in its history the city created a massive paved road – the *Diolkos* – to haul ships and cargo safely from one side of the isthmus to the other, thereby saving ships the trip around the windswept peninsula – a perilous journey in treacherous waters. "If you sail around Cape Malea, forget your home," wrote the 1st-century-BC geographer Strabo in his description of the voyage around the easternmost cape of the southern Peloponnese. The Corinthians profited from this situation by charging large tolls to shippers. The gateway to this Grand Bazaar was the city's main harbour at Lechaion, which teemed with life and commodities from all over the known world – silk from the Asia, wine from the Aegean, metal from Cyprus, and much more. Lechaion was one of the most important centres of trade in the world during the Greek, Roman, Byzantine, Frankish, Ottoman, and Venetian periods, and a key point in the Greek War of Independence. The Late Roman/Early Byzantine Period is the historic setting of this paper on the architecture and topography of Lechaion Harbour.

The Lechaion Harbour Project was initiated in 2013 by the Danish Institute at Athens in cooperation with the University of Copenhagen and the Ephorate of Underwater Antiquities. The project is under the direction of Dr. Bjørn Lovén and Dr. Dimitris Kourkoumelis, and is aided by assistant directors Paraskevi Micha and Panagiotis Athanasopoulos.

The work in 2013 was financed by Her Majesty the Queen Margrethe II's Archaeological Foundation. The Augustinus Foundation and the Carlsberg Foundation have committed to funding the project for the duration of its five-year permit (2013–2017).

THE MAIN LATE ANTIQUE PORTS ON THE BULGARIAN BLACK SEA COAST

Alexander Minchev/ Varna

(Abstract)

Key words: port; Late Antique; Black Sea coat; archaeology; underwater archaeology

The archaeological excavations along the Bulgarian Black Sea coast conducted during past about 120 years and the underwater investigations in the last about 50 years have revealed that the configuration of the present day coastal line is much different from the one in the Ancient- and respectively Late Antique periods. The reconstruction of the ancient ports and finding the possible remains of their Ancient structures is getting more difficult by the fact that now a lot of them are either flooded or overbuild by modern harbors.

Most of the Late Antique ports of importance are successors of Ancient ones, which have been established by the Greeks in the period of late 7th-4th c. BC, but there are also a few other ones, which emerged in the late 4th-6th c. AD. Starting from the north to south, the following main port sites of larger trade activities have to be listed up to the Haemus (Stara planina) range: Caria (ancient Caron Limen – modern Shabla): a harbor constructed by human hand; Byzone (Kavarna): natural harbor possibly improved by human hand; Kastritsi (at Evksinograd near Varna): natural port; Odessos (Varna), two natural harbours in Varna bay, the southern one improved by human hand; Late Antique town at Cape Sveti Atanas, near Byala: natural port.

South of Haemus the main ports are: Messambria (Nesebar): natural port; Sozopolis: (natural port), Agathopolis (Akhtopol): natural port.

During 4th- late 6th/ early 7th c. AD all listed above port towns served as main naval trade centers for their citizens and the inhabitants of their hinterland and far beyond in the provinces of Moesia Secunda and Thrace.

THE PROPOSAL OF A MODEL FOR KÜÇÜKÇEKMECE'S NATURAL HARBORS AS A TRANSSHIPMENT PORT DURING THE MIDDLE AGES

Haldun AYDINGÜN

Küçükçekmece Lake's Bathonea's excavations started on 2009 in a piece of land surrounded by the ever increasing concrete blocks of Istanbul's metropolitan developments. The surveys carried out during the previous two seasons discovered signs of an almost continuous occupation starting from the Middle Paleolithic (ca. 500,000 BC) till our present time.

Late Antique and Medieval strata of the excavations found amphorae and other types of findings not only from all over the Mediterranean coast but also from Nordic and Baltic lands as well. Bathonea's harbor seemed to be a very important junction for long extending trade routes. Until the industrial revolution brought the steam engine the roads on land and the sea lanes were following the same routes for millennia.

I propose that Bathonea was a very important junction for the Black Sea as such. The huge river systems were connecting North Sea and Baltic Sea to Black Sea. In the same way following the rivers of Phasis and Kura it was possible to go to the Caspian Sea. And from 5th century BC till the 14th century AD it was possible to negotiate Uzboy river upstream, which was connected to Amu Derya (Ancient Oxus) and reach Afghanistan Mountains. There were Chinese and Indian traders in Black Sea Colchis. These entire connected networks had to pass from Bathonea if the traders want to reach Aegean World and vice versa. Because while the Bosporus and Dardanelles were easy to sail from Black Sea to Aegean, on the opposite direction it was almost impossible for the loaded merchant vessels to negotiate it before the advent of steam engines. That's why Plynius was planning to open a channel from Marmara to Black Sea and the same plan was tried by Ottomans from 16th to early 19th centuries six times without success.

On the other hand Bathonea was providing a deep and very secure port with an easy access to Black Sea coast by a land route of only 30 km.



The position of Black Sea as a connector in the middle of the ancient trade connections and Bathonea giving the easiest access to Aegean and Mediterranean World.

The riverin connections started to materalize first duing the 7th millennium BC. On the 21st century the concept is still valid in general terms, because a big trade route system was carried out from China, passing trough Central Asia to Black Sea and beyond. Its name is “Silk Road Project”

The harbour installations of Lake Mariout (Alexandria region) in the Late Empire (4th – 7th century AD)
Valérie Pichot

The ancient Lake Mariotis, which lay to the south and south-west of Alexandria, became the principal thoroughfare of the region in the Ptolemaic era. After the Roman conquest, the Mariout region flourished greatly and the numerous harbour installations that lined the shores of the lake in the Late Roman period were the result of this process of expansion in the region. The plentiful remains of developments around Lake Mariout, which were still clearly visible some thirty years ago, confirm the existence into late antiquity of a large number of small ports. These were essential elements in an efficient and economic transport system for local people and goods that supplied Alexandria's markets on a daily basis via the city's lakefront harbour. Lake Mariout, a zone of traffic and exchange, was connected to the Nile by canals, whilst Alexandria's lakefront harbour was connected to the maritime port of the city by its own canal. Thus, the lake represented an extraordinary highway for merchandise coming from Alexandria's hinterland, the rest of Egypt, the wealthy province of Cyrenaica to the west, and from more distant lands, such as India via the ports of the Red Sea. Research conducted in the region indicates that each installation close to the lake (towns, villages, wealthy agricultural villas, reception facilities for pilgrims etc.) possessed a harbour, most often developed along a rocky promontory, whose size depended on the activities of the site.

Byzantine Harbors in the Greek region

Angeliki G. Simosi

My speech will focus on the assemblage of evidence about the harbors in the Greek region that played an important role during byzantine times.

The Byzantine Empire, dominant in the Greek seas, transforms old known Greek cities according to its standards.

Everything is undergoing changes according to the new standards and techniques of that era.

Ancient walls differentiate according to the needs of Byzantine siege art and as a result of this fact so is the structure of ancient harbors.

New Byzantine harbors are constructed many times on top of ancient foundations, while in other cases different sea areas are chosen for their construction, near or in a safe distance from ancient ones.

Characteristic examples of byzantine harbor constructions based on ancient ones, are those of Chios, Samos as well as the commercial harbor of Rhodes. In Nafpaktos I assume that the ancient harbor is located eastwards to the byzantine one. This is of course just an opinion that only underwater excavation and survey can verify. In this project, an effort will be made of analyzing harbors in byzantine times, their way of construction and the needs they served until the end of the Empire.

Aggeliki G. Simosi

Dr of Archaeology,

Head of Ephorate of Underwater Antiquities

Byzantine harbors on the western coast of the Black Sea (4th – 6th cent. AD)

The paper analyses the urban centers, Black Sea ports, situated on what we nowadays refer to as Romanian coastal area (Dobrudja region), with a special focus on ancient Tomis (Constanța, Romania), in the 4th - 6th centuries AD. Compared to the inland part of the province, the coastal area was more closely related to the Byzantine part of the empire and influenced by its specificities due to the commercial liaisons provided by the Black Sea trading routes. Categories of imported goods, coins issued in different Byzantine centers, epigraphical mentions of foreigners, etc., show how the channels of Byzantine influence worked. But how were the maritime hubs that channeled the material and immaterial culture towards the cities, and furthermore, towards the *hinterland*? Due to the morphological change of the coastline in time, due to modern structures that overlapped the ancient ones or even due to construction works undertaken in the late 19th century – early 20th century for the modernization and systematization of nowadays harbors, not enough archaeological information on the infrastructure of ancient ports was preserved. Several conclusions can be drawn though from indirect sources and from the positioning of commercial buildings and harbor annexes discovered so far. In Tomis, for instance, a warehouse complex, *en-gross* and *en-detail* shops, and other auxiliary structures discovered in the 1960's, suggest the position of the ancient harbor, the relation between it and the urban area, and how it was integrated in the commercial and urban life of the city. By analyzing these, along with other indirect sources, one can create a reasonable image on how the harbor activities were carried on in the late antique – early Byzantine period in the reference area.